Quality Assurance/ Quality Control Verification Checklist Level II (SW-846)

Testing Site: Jefferson Processing Site
Subcontract: Test America Inc.
Submittal Number: 5976
Lab Sample No.: 00-F17016 – 00-F17035

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.0 INTRODUCTION

The following QA/QC Data review is based on information outlined in OSWER Directive 9360.4-01 (April 1990), Data Validation Procedures and from QA/QC criteria specified in the "National Functional Guidelines for Organic Data Review", October, 1999. This document is intended for guidance in assessing and substantiating data for various users.

2.0 CHAIN OF CUSTODY (COC)

☒ Required ☐ Not Required

☐ Discrepancies ☒ No Discrepancies

3.0 PCBS

☒ Required ☐ Not Required

3.1 Sample Holding Times

1. Were any of the sample holding times exceeded?

   ☐ Yes ☒ No

   Sample holding times from date of sample collection:

   Water – 7 days to extract
   Soil, sediment, sludges – 14 days to extract
   All – analyze within 40 days after extraction

3.2 Instrument Performance

1. Examine standard chromatograms to assure adequate quantitation peak resolution. Chromatograms were not supplied with the laboratory report.

2. Examine raw data and spot check the surrogate compound retention times. Raw data was not supplied with the laboratory report.

3.3 Initial and Continuing Calibration Verification

1. Verify that a minimum of 5 standards for the Aroclors 1016/1260 mixture was analyzed. Other 5 Aroclors are analyzed and used to determine a single point calibration factor.

   ☐ Accepted ☐ Unaccepted ☒ Data not available

2. Verify that the %RSD of the calibration factor for all Aroclors is $\leq$ 20 or the mean %RSD of all analytes $\leq$ 20 then use average CF or RF.

☐ Accepted ☐ Unaccepted ☒ Data not available

$$\%RSD = \frac{s \times 100}{X}$$

where:

s = standard deviation of 5 response factors
X= mean of 5 response factors

3. Verify that the continuing calibration for each Aroclors of interest was analyzed at the beginning of each 12-hour shift and after every 20 samples (10 is recommended).

☐ Accepted ☐ Unaccepted ☒ Data not available

4. If the continuing calibration factor is in not within ± 15% of the mean calibration factor, recalibrate.

☐ Accepted ☐ Unaccepted ☒ Data not available

3.4 Accuracy and Precision

One MS/MSD per 20 samples or each batch which ever is more frequent. Compare results to laboratory established limits.

☒ Accepted ☐ Unaccepted

One LCS per 20 samples or each batch which ever is more frequent. Compare results to laboratory established limits.

☒ Accepted ☐ Unaccepted

3.5 Blanks

1. Verify that method blank analysis has been reported per matrix, per concentration level, at the proper frequency, for each GC system used to analyze samples, for each extraction batch.

☒ Accepted ☐ Unaccepted

2. Verify that all blank analyses contain less than the RDL of any PCB or interesting peak

☐ Accepted ☐ Unaccepted ☒ Data not available

3.6 Compound Identification

1. Second column confirmation (When using second column confirmation the second column must met the same calibration criteria as the first column).

Or

2. Identification is based upon a clearly identifiable Aroclor pattern.

3.7 Compound Quantitation and Reported Detection Limits

1. Verify that the reported values, both positives and non-detects, have been correctly adjusted to reflect all dilutions, concentrations, splits, cleanup procedures, dry weight factors, and any other adjustments have not been accounted for by the method. Positive results need to be bracketed by both an initial calibration and a passing continuing or by a passing continuing calibration analyzed before and after the positive results.

PCBs for waters: $\mu g/L = \frac{(A_x)(I_s)(V_t)}{(A_{is})(V_s)(V_i)}$

PCBs for soils: $\mu g/Kg = \frac{(A_x)(I_s)(V_t)}{(A_s)(W_s)(D)(V_i)}$

A_x = area of quantitation peak(s)
I_s = amount of standard
V_t = volume of total extract (µl)
Vi = volume injected (µl)
V_s = volume of sample (ml)
W_s = weight of sample extracted (g)
D = (100-% moisture)/100 or 1 for wet weight basis
A_s = area of external standard

3.8 Performance Evaluation Samples

☒ Required* ☐ Not Required

*The laboratory had previously passed the PE submitted for analysis.

1. Were recovery limits within those set by the manufacture?

☒ Yes ☐ No

3.9 Optional QC Checks

3.9.1 Surrogate Recovery

1. Verify that the recoveries are within the control limits.

☒ Accepted ☐ Unaccepted

2. If recoveries are out of control limits, use professional judgment to determine the appropriate action.

3.10 Overall Assessment of Data

It is appropriate for the data reviewer to use professional judgment and express concerns and comments on the validity of the overall data package for a case. This is particularly appropriate for cases in which there are several QC criteria out of specification. The additive nature of QC factors, which are out of specification, is difficult to assess in an objective manner, but the reviewer has a responsibility to inform the user about data quality and data limitations. This helps the user to avoid using data inappropriately, while not precluding consideration of the data. The data is accepted as reported by the laboratory.